forming an oxide layer in the single semiconductor substrate;

adding hydrogen into the single semiconductor substrate from a side of the main surface through the oxide layer to form a hydrogen-containing layer in the single crystal semiconductor substrate;

bonding the single crystal semiconductor substrate and a supporting substrate to each other;

separating the single crystal semiconductor substrate by a first heat treatment along the hydrogen-containing layer;

polishing a single crystal semiconductor layer remaining on the supporting substrate and having a main surface of a {110} plane; and

forming an active layer of a thin film transistor by using the single crystal semiconductor layer.

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92

2. (Amended) A method of fabricating a semiconductor device, said method comprising the steps of:

preparing a single crystal semiconductor substrate having a main surface of a {110} surface;

first oxidizing the single crystal semiconductor substrate to form a porous semiconductor layer;

carrying out a first heat treatment on the porous semiconductor layer in a reducing atmosphere;

carrying out an epitaxial growth of a first single crystal semiconductor layer having a main surface of a {110} plane on the porous semiconductor layer;

second oxidizing the first single crystal semiconductor layer to form an oxide layer, wherein a remaining portion in the first single crystal semiconductor layer which is not oxidized in the second oxidizing step is defined as a second single crystal semiconductor layer;

bonding the single crystal semiconductor substrate and a supporting substrate to each other;

polishing the single crystal semiconductor substrate until the porous semiconductor layer is exposed;

removing the porous semiconductor layer to expose the second single crystal semiconductor layer; and

forming an active layer of a thin film transistor by using the single crystal semiconductor layer over the supporting substrate.

92

3. (Amended) A method of fabricating a semiconductor device, said method comprising the steps of:

preparing a single crystal semiconductor substrate having amain surface of a {110} surface;

adding oxygen ions into the single semiconductor substrate from a side of the main surface to form an oxygen-containing layer in the single crystal semiconductor substrate;

converting the oxygen-containing layer into a buried oxide layer by a heat treatment, wherein a single crystal semiconductor layer having a main surface of a {110} plane remains on the buried oxide layer; and

patterning the single crystal semiconductor layer to form an active layer of a thin film transistor.

Please add new claims 13-14.

13. A method according to claim 1 further comprising the step of:

carrying out a second heat treatment at a temperature of 900 to 1200°C.

93

14. A method according to claim 2 further comprising the step of:

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